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EXAMINER	
VAN DOREN, BETH	

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/896,992	WILLIAMS ET AL.	
	Examiner	Art Unit	
	Beth Van Doren	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a non-final office action in response to communications received 03/09/2006. Claims 17-46 have been officially canceled. Claims 1-16 have been amended and are pending in this application.

Response to Amendment

2. Applicant's amendments to the specification and drawings are sufficient to overcome the drawing and specification objections set forth in the previous office action.

3. Applicant's amendments to the claims are sufficient to overcome the 35 USC 112, first and second, paragraph rejections as well as the 35 USC 101 rejections set forth in the previous office action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 8-9 and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8-9 and 11-12 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. As per claim 8, it is unclear as to how the identification of an end-of-life date affects the steps asserted in claim 2, and thus the omitted steps relate this element to claim 2. As per claim 9, it is unclear how determining if the components are at risk due to capital specifically relates to the method steps of claim 2. Therefore, the omitted steps show how this capital risk is related to disruption risk of

claim 2. As per claims 11 and 12, it is unclear how evaluating geopolitical risk or innovation risk relates to the method of claim 2. Therefore, the omitted steps show how this geopolitical risk or innovation risk is related to disruption risk of claim 2.

Claims 12-13 are rejected because the term "implicated" makes the claims unclear. Both claims recite "evaluating whether components from the set of components are implicated", however there is nothing in the claim that recites how this is determined or what the components are implicated of. Based on claim 2, it has been construed that the elements are implicated of being at risk. Clarification is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beauchesne (U.S. 6,128,626) in view of Hendrick et al. ("Production/Operations Management).

As per claim 1, Beauchesne teaches computer implemented method of identifying potential risk, the risk due to potential disruptions in material supply to a manufacturing facility, the method comprising:

identifying a component for an assembled product, the component being purchased from a supplier, wherein identifying the component includes identifying the supplier and a manufacturer's part number of the component (See column 8, lines 55-67, column 9, lines 13-42, wherein the component of the final product is identified. These

components are purchased from supplying vendors. The components are maintained in the system using the part number and vendor);

storing an identity of the component (See figures 4 and 5C, column 9, lines 43-45, wherein the identification is stored in the database); and

wherein the supplier supplies the component to the manufacturer (See column 1, lines 5-15, column 8, lines 55-67, column 9, lines 13-42).

However, Beauchesne does not expressly disclose identifying potential risk due to potential disruptions in this supplying.

Hendrick et al. discloses identifying potential risk due to potential disruptions in this supplying (See pages 229 and 230, which discloses supply risks that cause the possibility for suffering loss, such as supply coming too late, inappropriate timing, supply coming too early, etc.).

Both Hendrick et al. and Beauchesne disclose components parts being supplied by a supplier so that an end product may be manufactured. Beauchesne specifically discloses parts supplied by multiple vendors for the assembly of an end product. Hendrick et al. discloses the problems that can possibly occur when procuring different parts from different outside vendors, such as the parts coming too early, too late, etc. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to consider risk in supply when building a final product of Beauchesne (that is composed of components of outside vendors) in order to more efficiently meet the demand for the final product by more appropriately coordinating the quantities received and timing of the components of the outside vendors. See page 228-230 of Hendrick et al. which discloses these motivations.

8. Claims 2-8 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendrick et al. ("Production/Operations Management) in view of Beauchesne (U.S. 6,128,626).

As per claim 2, Hendrick et al. teaches a method of identifying potential risk, the risk due to potential disruptions in material supply to a manufacturing facility, the method comprising:

determining a set of components for an assembled product (See pages 228-9 and page 231, figure 11-3, wherein components are determined);

determining a set of sub-components for the set of components (See pages 228-9 and page 231, figure 11-3, wherein subcomponents and subassemblies are determined);

combining the set of components and the set of sub-components (See page 230-232, which discuss building a bill of materials and product structure trees by combining this information); and

identifying potential risk due to potential disruptions in material supply of a component from the set components and the set of sub-components (See pages 229 and 230, which discloses supply risks that cause the possibility for suffering loss, such as supply coming too late, inappropriate timing, supply coming too early, etc.).

However, Hendrick et al. does not expressly disclose a computer implemented method where the components and subcomponents are stored in an automated manner.

Beauchesne discloses a computer-implemented method where the components and other component and vendor information is stored in an automated manner (See figures 4 and 5C, See column 8, lines 55-67, column 9, lines 13-45).

Both Hendrick et al. and Beauchesne disclose components parts being supplied by a supplier so that an end product may be manufactured. Beauchesne specifically discloses parts supplied by multiple vendors for the assembly of an end product. Hendrick et al. specifically discloses determining assembly and subassembly parts, generating bill of materials, and the problems that can possibly occur when procuring different parts from different outside vendors, such as the parts coming too early, too late, etc. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to automate the process performed by Hendrick et al., including storing data associated with components and subcomponents, in order to more efficiently meet the demand for the final product by more appropriately coordinating the components and subcomponents needed for the final product. See page 228-230 of Hendrick et al. which discloses these motivations. Further, merely automating a manual process is per se obvious.

As per claim 3, Hendrick et al. does not expressly disclose and Beauchesne discloses a computer-implemented method where the components and other component and vendor information is stored in an automated manner (See figures 4 and 5C, See column 8, lines 55-67, column 9, lines 13-45), for the reasons set forth above in claim 2. However, neither Hendrick et al. nor Beauchesne expressly disclose that a country of origin of the set of components is stored.

Beauchesne discloses an approved vendors table and a component description table which maintains various information concerning the vendors and the vendors' compoenents. See figures 4 and 5C, which disclose the vendors name and associated information. Further, Hendrick et al. discloses lead time that accounts for shipment time

between the supplying vendor and the manufacturer. It is well known in the art that a company knows the address of vendors from which they are receiving supply, such as for shipment time calculations. Further, many manufacturers of parts were oversees and in other countries at the time of the invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to know and store the country of origin of the components of Hendrick et al. and Beauchesne in order to more accurately project lead times for schedule shipments, thus decreasing the chance of the components being late. See page 230 of Hendrick et al. Examiner notes that this data is merely being stored and does not have any functional impact on claim 2, as currently recited.

As per claims 4 and 11, Hendrick et al. in view of Beauchesne disclose vendors and country of origin as discussed above with regards to claim 3. However, neither Hendrick et al. in view of Beauchesne specifically disclose storing an indicia of the geopolitical risk associated with the country of origin.

Beauchesne discloses an approved vendors table and a component description table which maintains various information concerning the vendors and the vendors' compoenents. See figures 4 and 5C, which disclose the vendors name and associated information. Further, Hendrick et al. discloses lead time that accounts for shipment time between the supplying vendor and the manufacturer. It was well known in the art at the time of the invention that a company knows the address of vendors from which they are receiving supply, such as for shipment time calculations. Further, many manufacturers of parts were oversees and in other countries at the time of the invention. Further, geopolitical climate was a well-known factor that affects the industrial and manufacturing climate of a country. Therefore, it would have been obvious to one of ordinary skill in

the art at the time of the invention to know and store the country of origin of the components of Hendrick et al. and Beauchesne, as well as the geopolitical climate of this country, in order to more accurately project lead times for schedule shipments, thus decreasing the chance of the components being late. See page 230 of Hendrick et al. Examiner notes that this data is merely being stored and does not have any functional impact on claim 2, as currently recited.

As per claims 5, 6, and 10, Hendrick et al. discloses identifying a supplier for a set of components as well as the manufacturer assembling the final product (See page 230-232, which discuss building a bill of materials and product structure trees, and then using this information to order parts from outside suppliers). However, Hendrick et al. does not expressly disclose a computer implemented method, and therefore does not disclose storing an identity of a supplier of the set of components, an identity of an assembler of the set of components, or an identity of a fabricator of the set of components, wherein the identity of the fabricator includes the name of the foundry.

Beauchesne discloses a computer-implemented method where an identity of a supplier and an identity of an assembler of the set of components is stored in the system, as well as an identity of a fabricator of the set of components, wherein the identity of the fabricator includes the name of the foundry (See figures 4 and 5C, column 9, lines 43-45, wherein the identification is stored in the database).

Both Hendrick et al. and Beauchesne disclose components parts being supplied by a supplier so that an end product may be manufactured. Beauchesne specifically discloses parts supplied by multiple vendors for the assembly of an end product. Hendrick et al. specifically discloses determining assembly and subassembly parts,

generating bill of materials, and the problems that can possibly occur when procuring different parts from different outside vendors, such as the parts coming too early, too late, etc. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to automate the process performed by Hendrick et al., including storing data associated with components and subcomponents, in order to more efficiently meet the demand for the final product by more appropriately coordinating the components and subcomponents needed for the final product. See page 228-230 of Hendrick et al. which discloses these motivations. Further, merely automating a manual process is per se obvious.

As per claim 7, Hendrick et al. teaches determining a product assembled by a manufacturer, the product including the set of components (See pages 230-2, where bill of materials and product trees are discussed, which determine identify the end product).

As per claims 8 and 14, Hendrick et al. teaches identifying risk associated with parts arriving too early, carrying costs, and net inventory taking into account inventory already held by the manufacturer (See pages 230 and 232).

However, Hendrick et al. does not expressly disclose, nor does Beauchesne, an end-of-life date of the set of components.

Hendrick et al. teaches identifying risk associated with parts arriving too early, carrying costs, and net inventory. It is well known in inventory management that different resources, such as the paint of Hendrick et al., have shelf lives and thus must be used by a specified date, at which point they are no longer a usable resource. Thus, many companies account for these dates when ordering resources and considering on-hand balance. Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to consider end-of-life date of the set of components when ordering needed components and subcomponents, in order increase the accuracy of order scheduling, thus ensuring that enough on-hand inventory is available to assemble the final product. See pages 230 and 232 of Hendrick et al., which discuss the importance of timing and available inventory when building an assembly.

As per claim 12, Hendrick et al. teaches whether components from the set of components are implicated based upon an identified creation risk (See page 230, where supplying vendors also receive supply for their produced components and build the deliverables given to the manufacturer who assemblies the final product).

However, Hendrick et al. does not expressly disclose, nor does Beauchesne, innovation risk.

Hendrick et al. discloses considering in the lead time it takes to get a component or subassembly from a vendor the time it takes for the supplying vendor to assemble and build the component or subassembly. It is old and well known that innovation is a type of creation performed by supplying vendors, especially in the field of electronics where the components reapidly change with time. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to consider innovation in the creation component of lead time of Hendrick et al. in order to increase the accuracy of order scheduling, thus ensuring that enough on-hand inventory is available to assemble the final product. See pages 230 and 232 of Hendrick et al., which discuss the importance of timing and available inventory when building an assembly.

As per claim 13, Hendrick et al. teaches evaluating whether components from the set of components are implicated based upon an identified risk due to a supplier and a

supplier's ability to produce and deliver a good (See page 230, where supplying vendors also receive supply for their produced components and build the deliverables given to the manufacturer who assemblies the final product. See pages 229 and 230, which discloses supply risks that cause the possibility for suffering loss, such as supply coming too late, inappropriate timing, supply coming too early, etc). However, Hendrick et al. does not expressly disclose supplier concentration.

Beauchesne discloses that there are multiple vendors with the ability to supply a component to the manufacturer, and that different parts are supplied by different vendors (See column 8, lines 55-67. See also figures 4 and 5C).

Both Hendrick et al. and Beauchesne disclose components parts being supplied by a supplier so that an end product may be manufactured. Beauchesne specifically discloses multiple parts being supplied by multiple vendors for the assembly of an end product. Hendrick et al. specifically discloses determining assembly and subassembly parts, generating bill of materials, and the problems that can possibly occur when procuring different parts from different outside vendors, such as the parts coming too early, too late, etc. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to consider concentration of suppliers in the process performed by Hendrick et al. in order to decrease the risks associated with time, such as products being early, late, etc. See page 228-230 of Hendrick et al. which discloses these motivations.

As per claim 15, Hendrick et al. teaches receiving a production plan and generating a material requirement plan for a component (See page 230-232, which

discuss building a bill of materials and product structure trees based on the plan for building end products).

As per claim 16, Hendrick et al. discloses if quantities of the component are not available to support the material requirement plan for the components, identifying that shortages of the component are possible (See page 229-230 and 242, which discusses stockouts of components, thus affecting the production of the end product. This is all reflected in MRP reports).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hendrick et al. ("Production/Operations Management) in view of Beauchesne (U.S. 6,128,626) and in further view of Baseman et al. (U.S. 2002/0147666).

As per claim 9, Hendrick et al. discloses risks of carrying costs associated with having too many components in stock (See page 230). However, Hendrick et al. does not expressly disclose, nor does Beauchesne, determining whether components are at risk due to a capital cycle risks, the capital cycle risk being determined by predictability of demand versus supply and capital flexibility.

Baseman et al. discloses risks due to a capital cycle risks, the capital cycle risk being determined by predictability of demand versus supply and capital flexibility (See paragraphs 0008-9, 0015-17, 0023-6, 0037, 0047, which discloses capital risks associated with components in inventory).

Hendrick et al. and Beauchesne are combinable for the reasons set forth above in the rejection of claim 2.

Further, both Hendrick et al. and Baseman et al. disclose inventory management and holding costs. Baseman et al. specifically discloses capital investment in inventory and the risks associated with predicting demand, supply, and ability to spend. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include risks due to capital of inventory in the system of Hendrick et al. and Baseman et al. in order to more accurately plan for components, thus reducing carrying costs associated with holding extra inventory. See page 230 of Hendrick et al.

Response to Arguments

10. Applicant arguments with regards to Hendrick et al. ("Production/Operations Management) and Beauchesne (U.S. 6,128,626) have been fully considered, but they are not persuasive. In the remarks, Applicant argues that Hendrick et al. and Beauchesne do not teach or suggest identifying potential risk due to potential disruptions in material supply to a manufacturing facility where the method includes identifying potential risk due to **potential disruptions** in material supply of a component (or of a component from the set components and the set of sub-components).

In response to this argument, Examiner respectfully disagrees. This element was added in the current amendments filed to claims 1 and 2. Both claims 1 and 2 recite identifying potential risk due to **potential disruptions** in material supply. In the broadest reasonable interpretation, this limitation requires that a potential threat to supply is identified due to an act that delays or interrupts the supply. Neither claim 1 nor claim 2 specifically recites what these disruptions include, just merely that some act delays or interrupts the supply. Hendrick et al. was relied upon above to teach this limitation. Hendrick et al. discloses potential loss and delay caused to a manufacturer when supply is

delivered late to the manufacturer, such as when parts used by the supplier are delievered late, delaying the production of the supplier. Further, supply coming early to a manufacturer also causes a risk of disruption, such as when the manufacturer must pay a carrying cost. Therefore, based on the broadest reasonable interpretation of the claim, Hendrick et al. and Beauchesne do teach this limitation of the claim.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Baseman et al. (U.S. 6,671,673) discloses a system that considers risk in its supply chain management and financial management, including consideration to capital and inventory holdings.

Wong (US 2003/0149578) discloses establishing a risk profile for each part associated with a vendor as well as risks associated with supply management.

Feldman et al. (U.S. 2002/0188496) discloses managing supply chain risks associated with Bill of Materials, especially those most critical to the assembly of an end product.

Lidow (U.S. 6,889,197) discloses a supply chain associated with components and sub-components, as well as risks associated with the supply chain.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Van Doren whose telephone number is (571) 272-6737. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

bvd
May 26, 2006

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